

CLAIMS

1. A method of preparing a silica particle agglomerate comprising
 - a) adding an aluminum phosphate agglomerating agent with mixing to an aqueous dispersion of colloidal silica particles to form an aqueous homogeneous dispersion of silica particles and agglomerating agent; and
 - b) adjusting the pH of the dispersion with mixing to about 3.5 to about 8.5 to agglomerate the silica particles.
- 10 2. The method of claim 1 wherein the colloidal silica particles have a particle size of about 3 nm to about 150 nm as measured by quasi elastic light scattering.
- 15 3. The method of claim 1 wherein the agglomerated silica particles have a median, d50(V), particle size of about 150 nm to about 900 nm as measured by laser light scattering.
4. The method of claim 1 wherein the pH is adjusted to about 4 to about 6.
5. The method of claim 4 wherein the pH is adjusted using aqueous sodium hydroxide, aqueous potassium hydroxide or aqueous ammonium hydroxide.
- 20 6. The method of claim 4 wherein the pH is adjusted by mixing the dispersion of silica particles and agglomerating agent with an aqueous pH buffer solution.
7. The method of claim 1 further comprising applying a metal oxide coating such as alumina, ceria or titania coating to the agglomerated silica particle.
- 25 8. An ink-receptive coating for a substrate comprising agglomerated silica particles prepared according to the method of claim 1.
- 30 9. Paper for use in an ink printing device comprising paper and agglomerated silica particles prepared according to the method of claim 1 applied to the surface of the paper.

10. A method of preparing ink jet printer paper comprising applying agglomerated silica particles prepared according to the method of claim 1 to the surface of the paper.
- 5 11. A catalyst support comprising agglomerated silica particles prepared according to the method of claim 1.
12. A reinforcing filler composition comprising agglomerated silica particles prepared according to the method of claim 1.
- 10 13. A flattening agent comprising agglomerated silica particles prepared according to the method of claim 1.